DOCUMENT RESUME

ED 466 599 IR 021 334

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TITLE	Web Based Language Training with Tell Me More Online.
PUB DATE	2001-00-00
NOTE	6p.; In WebNet 2001: World Conference on the WWW and Internet Proceedings (Orlando, FL, October 23-27, 2001); see IR 021 310.
PUB TYPE	Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Computer Uses in Education; Educational Technology; Information Technology; *Instructional Design; Internet; Multimedia Instruction; *Online Courses; *Second Language Instruction; *Technology Uses in Education; *Web Based Instruction
IDENTIFIERS	*Speech Recognition

ABSTRACT

Over the past ten years, the advent of information technology and multimedia has revolutionized language learning. Ever since it was founded, Auralog has been investing heavily in the technological and educational adventure. As a result, the company has become the reference for language learning with the integration of speech recognition technology into its software. Speech recognition offers the opportunity to practice oral and listening skills. Today, the growth of the Internet is opening up new territory; a new generation of language learning has been born, offering the opportunity to learn a foreign language online. Auralog, with Tell Me More Online, offers a complete language course online, containing all the advanced technology previously developed by the company. The course includes speech recognition, interactive dialogs, grammar, vocabulary, written exercises, videos, etc. Thanks to the Internet, learners also have the possibility of benefiting from the assistance of a personal tutor. This paper highlights: (1) the major stages of the evolution of language learning through the ages; (2) Tell Me More Online technology, including the advanced scoring system, S.E.T.S. (Spoken Error Tracking System), waveforms and pitch curves, and phonetic animations; (3) pedagogical content; (4) learning support, including the help of a tutor via Internet and the advantages of learning support combined with home study; and (5) available tutoring services. (Contains 13 references.) (MES)

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Web Based Language Training with Tell Me More Online

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Abstract: Over the past ten years, the advent of information technology and multimedia has revolutionized language learning. Ever since it was founded, Auralog has been investing heavily in the technological and educational adventure. As a result, the company has become the reference for language learning with the integration of speech recognition technology into its software. Speech recognition offers the opportunity to practice oral and listening skills. Today, the growth of the Internet is opening up new territory: a new generation of language learning has been born, offering the opportunity to learn a foreign language online. Auralog, with Tell me More Online, offers a complete language course online, containing all the advanced technology previously developed by the company. The course includes speech recognition, interactive dialogues, grammar, vocabulary, written exercises, videos etc. Thanks to the Internet, learners also have the possibility to benefit from the assistance of a personal tutor.

Background

The evolution of language learning through the ages can be classified into four major stages:

1. *The Teacher's Voice and The Written Word*
   Originally, students relied on written aids (books, dictionaries, encyclopedias…) and only had one way of improving their pronunciation: reproduce, as closely as possible, the teacher's voice, which was their only reference.

2. *Voice Recording*
   It was with recordings of speech that new technology started to have an influence on language teaching. As well as traditional written aids, students now had access to audio (cassettes, audio CD's, radio etc.) and video aids (films in his or her original language, television).

   To perfect pronunciation, a student could make a tape recording of his or her own voice and play it back. Early tape recordings gave way to digital technology, but despite this improvement in sound quality, the technique offered very limited possibilities. It relied on the listening abilities of the student, i.e. on the student's sensory perception, which is highly variable from one person to another.

3. *Speech Recognition*[1]
   It was not the appearance of the first CD-ROMs that presented a real breakthrough in language learning. Indeed the first language learning methods produced on this format constituted nothing more than a simple transfer of the contents of existing aids from their traditional formats onto this new one.

[1] The term 'speech recognition' encompasses the entire range of technology that allows a machine to recognize speech. Modern speech recognition technology is based on an analysis of the phonemes that make up a spoken sentence. Auralog was the first company in the world to incorporate this technology into the teaching of foreign languages.

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In fact, it was only in the beginning of the 1990s, with Auralog's launch of the first language learning method based on speech recognition technology, that language learning reached the third stage in its development by freeing the student from the constraints of sensory perception and offering in its place a scientific evaluation of pronunciation.

Auralog allows the student to enter into a fluent, interactive dialogue with the computer, without the need to use either the keyboard or the mouse, and to obtain an automatic evaluation of his/her pronunciation. Thus the computer became a precise, ever-available and indefatigable coach.

4. *Online*

Thanks to the Internet, language learning recently reached the fourth stage in its development. All the technology earlier developed by Auralog has now been transferred to the Internet. This has led to a more flexible learning where the student can work at any time and in any place. This new way of learning languages also offers the student the possibility to have access to a personal tutor. The student is thus accompanied all through the learning process and the course can be particularly adapted to every student's needs and objectives.

The students can not only communicate with their tutor, but also with other students all over the world who are learning a foreign language or are simply curious about other countries and cultures. The Internet also offers the possibility to give students access to a resource center with links to other sites to help student's progress in their learning and widen their cultural knowledge.

The fact that the pedagogical content is online presents another advantage compared to CD-ROMs; the content can be updated more often. Minor changes in the software can thus be made regularly and in very short time, without forcing the students to buy a new version.

The Technology

Tell me More Online incorporates the very latest technological innovations: automatic detection of pronunciation errors with S.E.T.S. technology (Spoken Error Tracking System), 3D animations to visualize the articulation of phonetic sounds, and a web site where the millions of users of Tell me More around the world can meet and chat (voice or text).

1. *Advanced Scoring System*

With advanced speech recognition, the students can enter into a genuine dialogue with the computer. The user's responses guide the conversation. The learners can adapt the speech recognition to their own level, making the computer's evaluation of pronunciation quality more tolerant or more demanding. When the user pronounces a word or sentence, he/she receives a score which can be used to evaluate the quality of the accent, the pronunciation and the intonation.

2. *S.E.T.S*

Up until this point, speech recognition had been made to function for continuous speech, on complete sentences and independently of the speaker. The one remaining problem facing development teams was how, within a complete sentence, to precisely identify the word where a pronunciation error had occurred.

After several years of research, Auralog's software engineers perfected a technological development enabling the computer to automatically detect such an error in a spoken sentence.

This exclusive technology has been called S.E.T.S. (Spoken Error Tracking System). By locating the weaknesses in the learner's pronunciation, S.E.T.S. represents a crucial step forward in computer-assisted foreign language learning.

3. *Waveforms and Pitch Curves*

The software also allows the student to visualize accurately not only pronunciation but also intonation. Two types of display mode (waveform and pitch curve) are provided. The student can display them at the same time, or individually.

The waveform indicates the amplitude of the voice as a function of time (the notion of energy). It represents the sound intensity of the voice and gives a view of the structure of the pronunciation.

The pitch curve represents frequency variations in the voice. In tandem with the waveform, this curve enables students to make precise comparisons of their own intonation with that of the model (high-pitched/deep). This unique display mode is an innovation developed by Auralog.

Auralog is the only software publisher to offer applications evaluating the pronunciation and intonation both of complete sentences and of words, and which allows them to be visualized.

4. *Phonetic Animations*
Computer animations of individual phonemes allow the learner to observe articulations in close detail, and to reproduce them more accurately.

This exceptional technology helps the learner understand the articulations involved in producing certain sounds, which in turn facilitates recall, and leads to better reproduction.

Pedagogical Content

Tell me More Online has a rich and varied content for each language available (French, German, Spanish, Italian, Dutch, and American and British English):

- 1600 hours of learning for each language
- 144 interactive dialogues to perfect pronunciation
- 5000 exercises that develop different language skills
- a glossary and a dictionary to enrich the student's vocabulary
- 400 grammar rules
- 700 conjugated verbs
- videos in MPEG format for work on oral expressions

Learning Support

The latest generation of software takes this to a new level by offering a comprehensive product in terms of content and technology. It combines the advantages of both home study and made-to-measure teaching with real tutors thanks to the flexibility of Internet use.

1. *The Help of a Tutor via Internet*[2]
Even though multimedia has helped language learning and introduced interactivity, in the long-term it is not capable of satisfying those students who are looking for more personalized supervision and who are discouraged by home study.

The new generation of language learning courses with a personal tutor allows the introduction of a human element to motivate the students and supervise their aims. Thanks to the balance of pedagogical resources, the pupil and tutor will be able to build a program together with stimulating, personalized, and varied activities.

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[2] See Appendix for a description of the different tutoring services

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The Club environment of the web site, club.auralog.com, adds another interactive dimension. This site invites users of Tell me More to discover an abundance of complementary resources and a social area where they can actively use their learned language, play games, hold conversations, pick up cultural or practical information and improve their knowledge. For example a German learning Spanish can enter into a constructive conversation with a Spanish learning German.

2. *The Advantages of Learning Support Combined with Home Study*

The student will now be able to benefit from integrated pedagogical support via Internet. It is the closest thing to having a real teacher without the traditional disadvantages. Indeed, traditional lessons with a real teacher can be very efficient but quickly become extremely expensive. The fees go down as the number of participants increases, but unfortunately the level of efficiency is inversely proportional to this number.

Moreover, lessons present a geographic and time constraint: the student must travel somewhere that is not always convenient, and at a fixed time and frequency which may be a problem for anyone who works. The new technology (networks, electronic mail, Internet etc.) therefore allows the student to maximize the benefits of home study, but with permanent access to a personal tutor.

The advantages of this new concept thus lie in the interaction between your own work done in the activities offered by the Tell me More course and the human aspect of teaching offered by a personal tutor via Internet. The following are four examples of the dynamic relation created by a combination of support in the software and via Internet to create a perfect balance between home study and personalized learning (learning support).

Example 1. With Tell me More, the student has the opportunity to carry out a real exercise in written expression. They can be invited to describe, in the language being learned, a scene that appears on the screen. The software carries out an assessment of this work by looking for and correcting obvious spelling and grammar mistakes. The tutor will then receive the work carried out by the students in order to be able to give them more precise information about their mistakes and advice to improve their written expression.

Example 2. The student is working on some of the activities and experiences difficulties; they report to the tutor. The tutor will then analyze the nature of the problem and send the students a learning path that is better adapted to their aims and needs thanks to the possibility of automatically sending complex files of student tracking by e-mail.

Example 3. The pupil may not understand the syntax or construction of a sentence in the dialogue contained in Tell me More and thus asks his/her tutor by e-mail for a precise explanation about the grammar point involved.

Example 4. The student wants to get in touch with other students wishing, like him or her, to practice speaking naturally in the language. The tutor will indicate to the student a forum on the web site: club.auralog.com which has been designed for the needs of students registered in the Distance Learning Tutor Program.

It is therefore a new generation of language learning incorporating the knowledge and teaching skills of a teacher with the resources of Internet. This learning solution is the result of more than 10 years of research and development of speech recognition and computer-assisted learning. Today with the incorporation of learning support and the transfer of the content to the Internet, Tell me More Online has become an individualized solution for language learning; a real personalized language course on the computer.

Appendix – Tutoring Services

The different tutoring services include the following :

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- *Initial Assessment :* The tutor evaluates the student's level on the basis of a linguistic test, analysis the work done by the student in the different activities in The Tell Me More Collection, and sends a personal assessment by e-mail.

- *Individualized Learning Paths :* The students can receive a learning path, by e-mail, with activities adapted to their level and aims, in the form of a program file. For example, should the student want to concentrate in particular on speaking, the tutor will suggest an appropriate study plan. If, during the course of study, the tutor decides that the learning path should be modified or refined, a new learning path will be suggested.

- *Linguistic Questions :* With the tutoring services, the students have the opportunity, on a permanent basis, to enter into a discussion via e-mail with their tutor. They will thus be able to clarify certain grammar points, obtain useful hints for optimal use of the software, ask the meaning or translation of a term or sentence, or have a conversation about any subject.

- *Correction of Written Exercises :* The tutor will correct the written expression exercises in more depth and help the student to acquire more natural expressions in the language being learned.

- *Regular Monitoring :* Just like a normal teacher, the tutor will monitor the student, check his or her progress, encourage them and regularly examine his or her results.

- *Access to the Auralog Club on the Internet :* The students will become regulars in the user-friendly chat room, reserved especially for them at this web site, which is particularly equipped for their needs.

And, as an option :

- *Personal Appointment :* The student can agree upon an appointment time to have a real-time conversation with the tutor to talk about subjects that interest them.

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